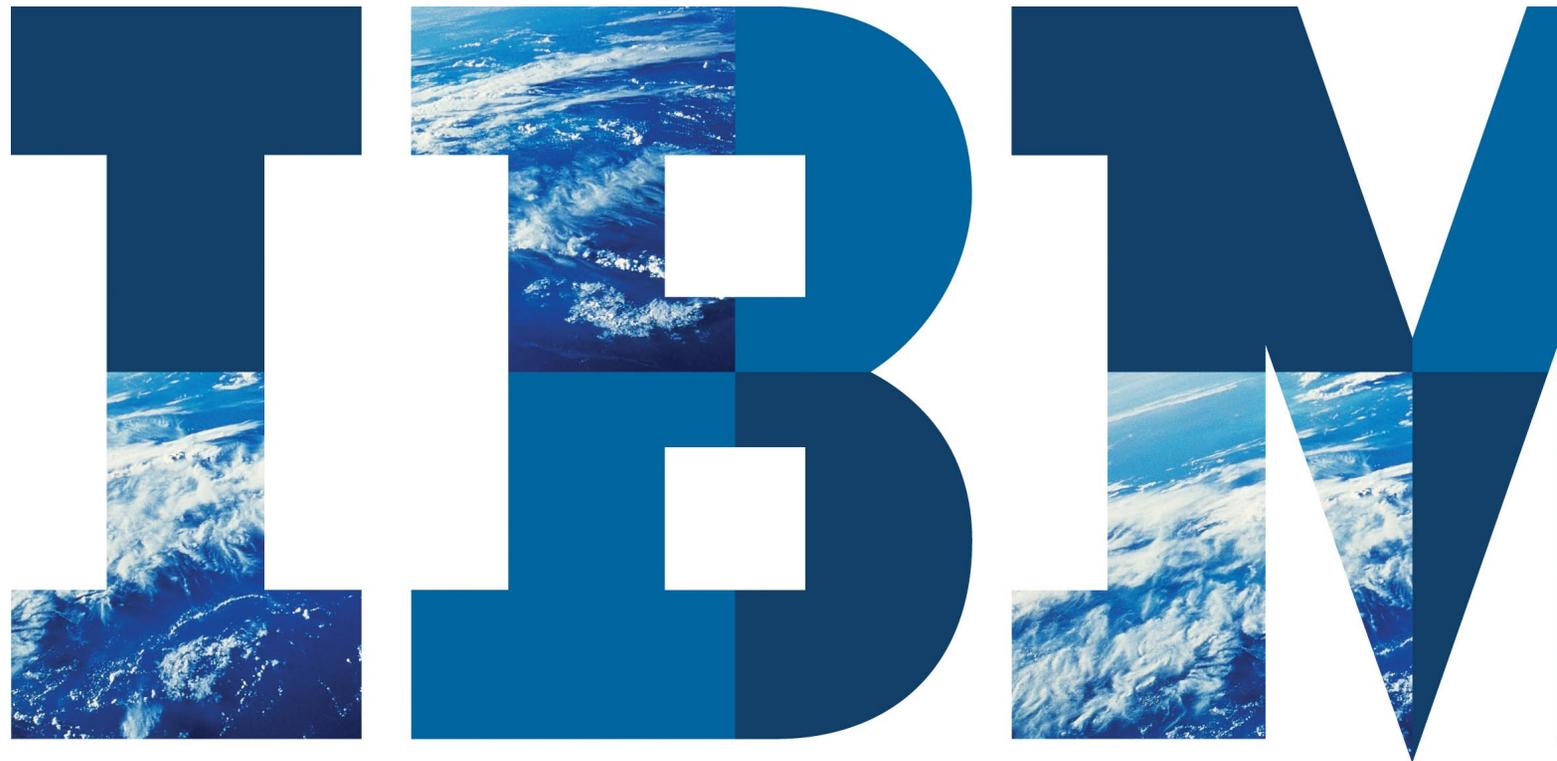


**IBM Global Technology Services**  
IBM Resiliency Services

# IBM Cloud Virtualized Server Recovery

*Service profile*



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# 1. The service

In today's dynamic business environment, a flexible, scalable and reliable server recovery capability is crucial in case of a disaster. IBM® Cloud Virtualized Server Recovery (VSR) can help organizations meet recovery challenges by providing faster and more reliable server recovery.

How does the service work? VSR continuously replicates your protected servers to the IBM Resiliency Cloud.

It also maintains an up-to-the-second bootable image of those servers. When a disruption occurs, your organization can initiate failover to IBM via a web-based management portal (see “Portal use” in Section 2). With its high degree of automation, VSR provisions a recovery server within minutes, along with associated disk volumes and data that are only seconds old at the time of outage. This dramatically improves recovery point objectives (RPOs)—often to near

zero—while also improving recovery time objectives (RTOs). The automated nature of this service improves the reliability and accuracy of recovery operations. Automation reduces the chance of human error, improves consistency, and provides organizations with confidence in their ability to achieve consistent and fast recovery—regardless of the time of day the outage occurs, or the availability of expert recovery staff.

Unlike traditional recovery operations that require arduous and time-consuming processes to test, VSR allows you to verify recovery operations frequently—allowing organizations to regularly rehearse and validate recovery operations, and feel confident in their ability to recover servers quickly. With a few clicks on the VSR management portal, a company can initiate recovery testing as a disaster recovery validation step in the change management process, whenever a significant change is

applied to the production environment. A financial institution, for example, can test recovery capabilities after an upgrade of its mobile banking platform. Online retailers can test RPOs and RTOs before an important shopping day, such as Cyber Monday.

VSR also helps simplify the typically complex task of recovering heterogeneous server environments—those with a mix of physical and virtual servers running a variety of operating systems, including

Microsoft Windows, Linux, Unix and IBM AIX®. VSR can recover and fail back the systems, applications and data from any of these server platforms, regardless of the underlying hardware brand, make and model. Using just one service, one portal and one recovery procedure for a multitude of server platforms simplifies and streamlines the recovery process, which is important for organizations facing the urgency and stress of disaster recovery.

## 2. Service deployment

Deploying the IBM VSR service consists of six steps: kickoff activities and delineation of responsibilities, choosing a service option, provisioning and activation, portal use, monitoring and problem determination, and recovery support.

### 1. Kick off activities and delineation of responsibilities

IBM initiates the service by asking you to designate a point of contact for VSR. This person is typically your disaster recovery manager. All communications regarding the service will be addressed to this person, and the point of contact will have the authority to act on your organization's behalf with IBM. Concurrently, we appoint an IBM project manager, who will be your organization's contact person for the service.

Next, IBM hosts a kickoff meeting with your point of contact and other designated personnel. At this time, you and IBM discuss your server environment, developing a detailed picture of each server to be protected with VSR. Topics to be covered include anything that might affect server replication. We examine, for example, what operating system each server uses, any modifications that have been made to those operating systems, whether the server houses databases, and whether it operates alone or as part of a cluster. We also address connectivity, examining your network schematics, router configurations, firewalls and gateways to make sure that the VSR service can successfully connect to your environment.

IBM also uses this meeting as an opportunity to review and validate the objectives of your service, discuss implementation of the service, and delineate roles and responsibilities for both your staff members and IBM personnel.

What are some of your responsibilities as consumers of a VSR service? Your organization must provide the bandwidth necessary for replication, failover and failback. The exact amount required varies from organization to organization, depending on the size of the protected disk volumes and the change rate of data. The [VSR bandwidth estimator](#) in conjunction with discussions with your IBM project manager help you determine your bandwidth requirements.

Organizations should also update change management and recovery operations so they align with VSR operations. Consider connection paths as one example. If a single protected server in an otherwise operational data center goes down—and your router is still working—continued communication between the VSR service and your data center should happen automatically. But suppose there’s an earthquake, a large portion of your infrastructure goes down and your routers fail? Your servers, data and applications are now running on the IBM Resiliency Cloud, but without working routers, your employees have no way to access them, and your business suffers.

## 2. Choosing a service option

After kickoff activities, your organization chooses both a target recovery location, for example either an IBM Cloud Resiliency Data Center or a Public Cloud Recovery Data Center and then chooses a VSR service option: gold or silver (depending on the target recovery location). These tiered service levels provide organizations with a choice of price points commensurate with RPO and RTO requirements. The gold option provides you with recovery to a reserved-resource recovery server, silver with recovery to a shared-resource recovery server. You may choose to have some servers protected at the gold level, others protected at the silver level, depending on

your recovery needs for each server. For recovery in the public cloud, no gold or silver option is available because all resources consumed in public cloud are dedicated.

The **gold** option provides you with recovery resources that are reserved and fully matched to those of your protected servers. It is the option IBM recommends for mission-critical servers that need assured resources for the strongest recovery performance possible. This option can begin failing over servers in minutes, depending on the number of servers protected and their data volumes. Replication is continuous. The service also retains system image snapshots of the proceeding 24 hours, captured in 15-minute

increments, should a failover to a prior point in time be required. For example, if a virus corrupts data, organizations may need to fail over to a system image captured before the onset of the virus. The length of time you may keep your servers running on the IBM Resiliency Cloud will be noted in your contract. Extensions are available for a daily fee.

The service comes with 10 recovery tests of up to 24 hours each per contract year. You will also receive an initial recovery test that is to be conducted within 48 hours of the completion of your initial replication. All other tests can be conducted at times of your choosing. Additional tests are available for a per-test fee.

**Silver** is a cost-effective option that allows organizations to reduce recovery costs by sharing resources with other IBM clients. Isolation technologies and security protocols protect and separate each client's information in the shared resource. This option provides failover initiation within one hour after an outage. Replication is continuous. The service also retains system image snapshots of the proceeding 24 hours, captured in 60-minute increments, should failover to a prior point in time be required. The length of time you may keep your servers running on the IBM Resiliency Cloud will be noted in your contract. Extensions are available for a daily fee.

The silver option allows for one recovery test, of up to 24 hours, per contract year. Additional testing is available for a per-test fee. In contrast to the gold offering, which allows for recovery testing at times of your choosing, testing opportunities at the silver level are offered on a first-come, first-served basis.

**VSR on Public Cloud** delivers a cloud centric deployment approach to dedicated recovery in the public cloud which again is a cost-effective option where customers can predict their own costs in an opex model consuming public cloud resources such as compute, storage and software at the time of need and only pay for the recovery resources consumed at the time of testing

or at the time of a disaster in a pay-as-you-use model. No Gold or Silver services exist with the VSR on public cloud offering because all resources are dedicated to each customer and not shared amongst other customers. This service allows customers to plan DR testing and have the ability to test more frequently if desired.

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#### Need a customized cloud recovery solution?

For very large organizations with hundreds or thousands of servers in multiple or widely dispersed data centers, IBM offers customized VSR solutions. In these cases, IBM builds and manages resilience clouds customized to meet the organization's needs for replication speed, capacity and security. Clouds can be housed in IBM resiliency centers or in the public cloud or in the organization's own recovery center. For more information on customized VSR solutions, please contact your IBM advisor.

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### 3. Provisioning and activation

After you choose a service option, you can install the VSR software agent on the servers you want to protect. This software agent replicates data, applications and operating systems to the cloud or public cloud. During the provisioning and activation process, IBM also provides you with a link to the web-based management portal and supplies user IDs and passwords. We acquaint you with the testing and recovery procedures you can access via the management portal. IBM then activates the VSR service. The service is considered activated when you can access the management portal and initiate replication of protected servers.

IBM can provide additional services — such as connectivity planning and network design — to help you address various disaster scenarios and recover from them with VSR.

### 4. Portal use

The web-based VSR management portal allows authorized users to log on from virtually any web-enabled device to monitor and test recovery operations, and to initiate failover. (See Figure 1). This process allows organizations to avoid the expense and difficulties involved with travel to disaster recovery sites for testing and recovery. Automated processes reduce the chance of human error and provide consistent and reliable recovery — regardless of the time of day the outage happens, or the availability of expert recovery staff.

The portal can also be used to:

- Download replication software agents to servers, initiate service
- View protection status and real time RPOs for your protected servers
- Add or remove servers from the VSR service
- Add and remove disk volumes from replication
- Perform account management functions such as adding and removing portal users and the tasks they are allowed to perform
- Generate reports that you can use in your internal disaster recovery status reporting

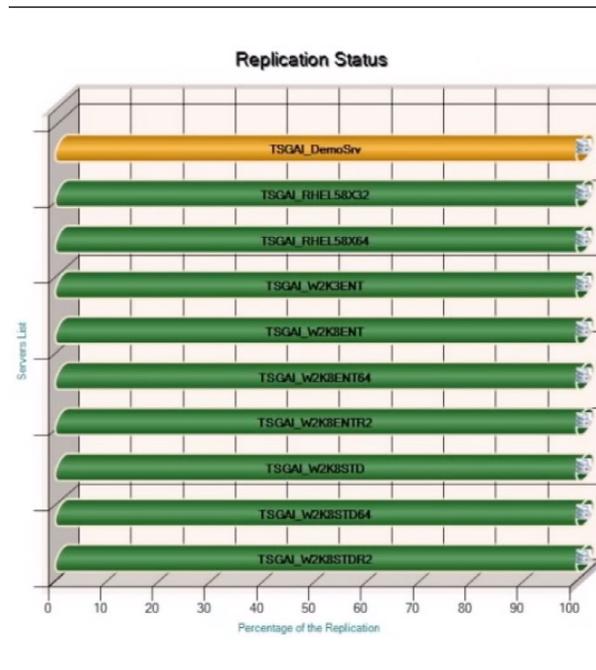


Figure 1. Servers represented by a green bar have reached replication currency; those with a yellow bar denote in-progress replication.

## 5. Monitoring and problem determination

VSR is a managed service, and we provide ongoing monitoring and support of your recovery servers. Either at IBM resiliency centers or in the public cloud, the VSR staff monitors your service for abnormalities in the replication stream that may affect RTOs and RPOs. If we detect that recovery points or recovery times are dropping, or that the replication stream is slowing, we begin diagnosing the problem and advise you of the actions necessary to remedy it. We also make sure that live replicas, snapshots and data are readily provisioned for when failover or failback is needed.

Throughout your service, your IBM project manager is available to help with any issues that may arise, and will act as your point of contact for problem resolution.

## 6. Recovery support

In the event of an outage, you can initiate failover to the IBM Resiliency Cloud via the VSR management portal. However, you should notify IBM of the outage before initiating failover, using an outage emergency procedure explained to you by

your IBM project manager. This notification allows IBM to verify that connectivity settings are activated and properly configured to your IP addresses, among other tasks. IBM professionals can also work with your point of contact, resiliency administrator and other designated personnel to troubleshoot problems that may arise. We may also provide support at your site, as needed. IBM support for VSR is available around the clock.

## 3. Service delivery

### Time Frame

The cloud-based nature of VSR typically makes the service quick to provision, often within one to two weeks of your kickoff meeting. However, if you wish IBM to outfit your IT environment, including your secondary production environment, to accept VSR, the process may take longer. IBM will work with you to appropriately prepare your environment.

### Pricing

Service price varies, based on number of servers protected, the amount of data replicated, and the CPU and RAM capacity of the recovery server.

### Our resiliency centers

Your service will operate from one of our more than 300 resiliency centers in 68 countries around the globe. The number and location of these centers give IBM both a global reach and a local presence—and provide you with the flexibility to choose whether your VSR service operates in your home nation, out of your country, or both. You can view a map of our resiliency centers [here](#).

IBM resiliency centers integrate cloud and traditional disaster recovery capabilities with physical security features. They are staffed 24 hours a day, seven days a week, by resiliency center teams who are ready to help you recover from outages.

### Why IBM?

Cloud recovery is just the latest innovation in IBM's history of disaster recovery. With more than 50 years' experience in business continuity and resiliency, IBM is an acknowledged market leader and innovator in this field. We offer services for virtually every aspect of business resiliency, from consulting and assessment to site and facilities design to cloud services and business continuity management. Our more than 4000-plus continuity and resiliency professionals serve more than 10,500 clients. We have a 100 percent success rate in meeting commitments to clients who have declared a disaster. Very few technology organizations operating in the resiliency arena can match our track record, expertise, and portfolio breadth.

Our VSR clients typically achieve:

- Fast server recovery (typically minutes for the gold service level, less than an hour for silver) that is consistent and dependable
- Simplified recovery operations, achieved by having the same VSR service and portal-driven recovery procedure across a wide range of server platforms
- Dramatic reductions in downtime, improving application availability
- Predictable monthly expenses for recovery operations, helping to eliminate capital expenditures
- Dramatic reduction in time, effort and expense for staff travel compared to traditional warm or hot site recovery

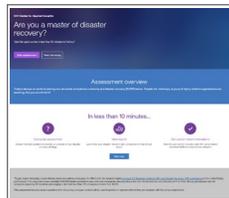
## 4. Getting started

### Learn more about IBM Cloud Services Virtualized Server Recovery

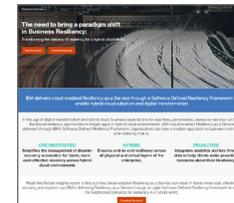
For more information about IBM Cloud Virtualized Server Recovery that you can download to share with other in your organization, visit our [web site](#).



Watch this [video](#) to learn more about IBM Disaster Recovery as a service.



Read the report and take the assessment to understand how highly resilient organizations excel.



Read “The Need to Bring a Paradigm Shift in Business Resiliency” white paper to learn how resiliency orchestration enhances disaster

recovery automation by using deep insights into the IT infrastructure, dependencies, business processes, regulations and threats to deliver a more contextual and proactive DR solution.

### Ready to talk?

IBM VSR specialists can help you create a business case for deploying VSR so that you can optimize the return on your recovery investment. If you'd like to speak with an IBM VSR representative to discuss your recovery objectives, please phone: 877-426-3287.

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Produced in the United States of America  
March 2017

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<sup>1</sup> *Fallout: The Reputational Impact of IT Risk, Forbes Insights, 2014.*



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